

### ***BOX 1: DIMOCK, PENNSYLVANIA***

Dimock is located in northeast Pennsylvania's Susquehanna County, the heart of some of the most productive drilling areas in the Marcellus shale play. On New Year's Day in 2009, a residential water well in Dimock exploded due to methane build-up in the well. Further investigation found methane gas in drinking water wells and in the headspaces of drinking water wells that provide water to local residents. These water wells were located near drilling wells owned and operated by Cabot Oil & Gas, and, in February 2009, the Pennsylvania Department of Environmental Protection (DEP) issued a notice of violation against the company, which stated that Cabot discharged natural gas, failed to properly cement casings, and failed to prevent natural gas from entering fresh groundwater (PA DEP 2009). Pennsylvania has what is called a "rebuttable presumption" for drinking water pollution, whereby the oil and gas operator is assumed to be responsible for drinking water pollution that occurs within 1,000 feet and within six months of a drilling operation, unless the company can provide baseline data to refute the claim. In the absence of baseline data, the company is required to replace the water that has reportedly been lost or degraded (025 Pa. Code §78.51). Cabot was ordered to install methane detectors in nine homes and provide drinking water to four homes in the affected area (Lobins 2009).

The DEP conducted an investigation into the methane contamination and determined that Cabot was responsible for polluting 13 drinking water wells, which was later revised to include an additional five wells (PA DEP 2010). Other violations were also found, including several cases of improper or insufficient casings and excessive borehole pressure. In November 2009, DEP entered into a Consent Order and Settlement Agreement with Cabot that required the company to permanently restore or replace water supplies for the affected homes and fix any wells identified to have improper or insufficient casing (PA DEP 2009). Cabot was also ordered to cease drilling in the area and was later completely banned from fracking new or existing wells until authorized by DEP.

Six well owners signed agreements with Cabot and had water treatment systems installed, including methane venting systems, although most were still using bottled water because they lacked confidence in the treatment systems. Twelve well owners refused to sign agreements with Cabot and were part of a civil suit. Cabot continued to provide temporary water service to these twelve homes. In October 2011, however, the DEP formally stated that Cabot had fully complied with the consent order and was no longer required to provide drinking water to Dimock residents (Legere 2011). DEP allowed Cabot to stop providing water to the twelve homes that had not installed the water treatment systems because Cabot had provided a solution, and well owners were given sufficient time to sign the agreement (U.S. EPA 2011c).

Despite a subsequent announcement in December 2011 from EPA that Dimock water was safe to drink, local residents submitted results from their own testing, which indicated the water was still polluted (McAllister and Gardner 2012). In January 2012, after some vacillation, the EPA began

sampling water at 64 homes in the area and supplying drinking water to four households that had shown elevated levels of contaminants that pose a health concern (U.S. EPA 2012a). Results of the testing indicate that, while five homes showed elevated levels of arsenic, barium, and manganese – all naturally occurring substances – the private wells do not have contaminant levels that pose a health concern or exceeded the safe range for drinking water (U.S. EPA 2012b). EPA’s testing also concluded the presence of elevated levels of methane, Cabot disputes whether the methane resulted directly from the drilling.

End of Box 1